GCSE 2004
June Series

AQA
ASSESSMENT and
QUALIFICATIONS
ALLIANCE

Mark Scheme

Mathematics B (3302)
Module 5 Paper 2 Tier F

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

The following abbreviations are used on the mark scheme:

M	Method marks awarded for a correct method.
A	Accuracy marks awarded when following on from a correct method. It is not necessary always to see the method. This can be implied.
B	Marks awarded independent of method.
M dep	A method mark which is dependent on a previous method mark being awarded.
ft	Follow through marks. Marks awarded for correct working following a mistake in an earlier step.
SC	Special Case. Marks awarded for a common misinterpretation which has some mathematical worth.
oe	Or equivalent.
eeoo	Each error or omission

MODULE 5 Paper 2   FOUNDATION TIER   33005/F2

1(a)	10	B1	
(b)	Rectangle attempted	M1	
	5×2 or 10×1	A1 ft	ft their answer to (a) Allow 4×2.5 if accurate to ± 2 mm

2(a)	$\dfrac{1}{2}$	B1	oe
(b)	4 triangles shaded	B1	
(c)	$\dfrac{4}{6}$	B1	or any other fraction $= \dfrac{2}{3}$
(d)	$\dfrac{3}{5}$	B2	B1 for $\dfrac{21}{35}$ or $\dfrac{6}{10}$ (NB Not a decimal)

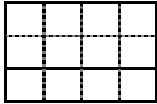| 3(a)	1, 2, 3, 4, 6, 12	B2	B1 for any 4 or 5 of these, could be in working
(b)	1, 2, 3, 5, 6, 10, 15, 30	B1	Any 4 factors of 30 seen
	1, 2, 3, 6	B2	B1 for 2 or 3 of these
			In each section, deduct one mark only for extra, wrong factors on the answer lines

4(a)	$7 \times 30 + 25$	M1	or $7 \times 0.30 + 0.25$ or digits 235 seen
	2.35	A1	Accept 235p if £ is deleted
(b)	$(385 - 25) \div 30$	M1	or complete build up method
	12	A1	
	SC1: if £3.85 is answer (a) AND 7 is answer (b)		

5(a)	(3, 4)	B1	SC1 for both (a) and (b) reversed
(b)	(−1, 1)	B1	
(c)	i) 2 lines, parallel to *AB* & *CB*, forming parallelogram	B1	2 mm tolerance on each line
	ii) (−2, 4)	B1 ft	MUST be their correct coordinate for D
	NB Notation error: eg (3*x*, 4*y*) Penalise once only		

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6(a)	27	B1	
	31	B1 ft	or (their 27) + 4
(b)	Add 4	B1	oe

7(a)	35	B1	
(b)	0.028(5714…)	M1	or 0.028 on answer line
	0.029	A1	

8	+5 then ÷4	M1	
	11	A1	

9(a)	6	B1	
(b)	Correct net	B3	B1 for 4 squares in a row or column B2 for correct net for open-topped cube (± 2 mm) SC1 for correct net in correct scale factor

10	28.8 ÷ 2	M1	or 28.8 – 2 × 10.8 or 7.2
	(their 14.4) – 10.8	M1 dep	(their 7.2) ÷ 2
	3.6	A1	3.6

11(a)	Any *k* which is a multiple of 4	B1	eg $\frac{1}{2}$ 4 + 1 (= 3) or eg *k* = 4
(b)	Even	B1	

12(a)	i) Line must go at least from *P* to the opposite vertex	B1	Ignore additional **correct** lines of symmetry
	ii) 6	B1	
(b)	Any correct diagram	B2	B1 for any shape with correct symmetry but not three extra squares

13	100° at *A*	M1	± 2°
	C correct and triangle drawn	A1	*AC* = 4 cm ± 2 mm
			SC1 for 100° at *B* not *A*

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14(a)	$7p + q$	B2	B1 for $7p$ or $(+)q$ B1 $7 \times p + (1)(\times)q$ Penalise incorrect notation once in the question
(b)	$4r - 12$	B1	

15	$10.8 \times 9.5 \ (= 102.6)$	M1	or 17.5×9.5 M1
	$\frac{1}{2}(17.5 - 10.8) \times 9.5 \ (= 31.825)$	M1	or $\frac{1}{2}(6.7) \times 9.5$ M1 $\frac{1}{2}(10.8 + 17.5)\,9.5$ gets M2
	$134(.425)$	A1	

16(a)	$3(x - 2)$	B1	
(b)	$x(x - 2)$	B2	B1 for $x(x\ldots)$ or $x(\ldots -2)$

17		B2	B1 for a 4 by 1 rectangle or a 4 by 2 rectangle or a 4 by 3 rectangle Must be correct orientation

18	$650 \times \frac{15}{100}$	M1	oe Accept a complete build up method
	97.50	A1	Ignore subsequent working NB 97.5 scores A0

19	$360 \div 8$	M1	or 45 seen or 6×180 or 1080 or $(2 \times 8 - 4)$ right angles
	$180 - $ (their 45)	M1 dep	(their 1080) $\div 8$
	135	A1	135